

CLAIMS:

1. A method of differentially updating stored data in a mobile terminal from a first data version to an updated data version, the method comprising

- 5 – loading differential update instructions into the mobile terminal; and
 – generating the updated data version by the mobile terminal from the stored data and the loaded differential update instructions;

characterised in that

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the method further comprises detecting whether the stored data in the mobile terminal includes one or more corrupted portions of the stored data inconsistent with the first data version; and that generating the updated data version further comprises repairing any such detected corrupted portions.

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2. A method according to claim 1, further comprising generating the differential update instructions based on information about the detected corrupted portions of data, if any.

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3. A method according to claim 2, wherein the differential update instructions include update data; and wherein generating the updated data version comprises replacing predetermined portions of the stored data by said update data.

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4. A method according to claim 3, wherein the update data include repaired portions of data consistent with the updated data version, the repaired portions of data corresponding to the detected corrupted portions of data.

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5. A method according to any one of claims 2 through 4, wherein generating the differential update instructions comprises generating instructions causing the mobile terminal to generate the updated data version from the stored

data excluding the detected corrupted data portions, if any, and from the differential update instructions.

6. A method according to any one of claims 2 through 4, wherein generating
5 the differential update instructions is performed by a remote data processing system.

7. A method according to claim 6, wherein the mobile terminal and the
remote data processing system communicate via a wireless communications
10 link.

8. A method according to claim 6 or 7, wherein the mobile terminal and the
remote data processing system communicate via an Internet Protocol.

9. A method according to any one of claims 6 through 8, wherein the
15 detecting is performed by the mobile terminal and the detecting further
comprises transmitting information about the detected corrupted portions
from the mobile terminal to the remote data processing system.

10. A method according to any one of claims 6 through 8, wherein the
20 method further comprises transmitting information about the stored data from
the mobile terminal to the remote data processing system; wherein the
detecting is performed by the remote data processing system from the
transmitted information.

11. A method according to any one of claims 1 through 10, wherein the
25 detecting comprises

– calculating a number of checksums by the mobile terminal, wherein
each checksum corresponds to a corresponding portion of the data
30 stored in the mobile terminal; and

- comparing the calculated checksums with a number of reference checksums to identify any corrupted portions of data.

12. A method according to claim 11 when dependant on claim 9, wherein the
5 reference checksums are stored in the mobile terminal and wherein the comparing is performed by the mobile terminal.

13. A method according to claim 12, wherein the reference checksums stored
in the mobile terminal are integrity protected by a message authentication
10 code.

14. A method according to claim 11 when dependent on claim 10, wherein
the reference checksums are stored on the remote data processing system;
wherein the transmitted information comprises the calculated checksums;
15 and wherein the detecting further comprises comparing the transmitted
calculated checksums by the remote data processing system with the
number of reference checksums stored on the remote data processing
system.

20 15. A method according to any one of claims 11 through 14, wherein the
calculating comprises calculating the checksums as a cryptographically
strong one-way hash function of the corresponding portion of the stored data.

16. A mobile terminal comprising
25 – a data memory for storing data;
– communications means adapted to receive from a data processing
system differential update instructions for updating data stored in the
data memory from a first data version to an updated data version;
– processing means adapted to generate the updated data version from
30 the stored data and from the received differential update instructions;

characterised in that the processing means is further adapted to generate information from the stored data indicative of the presence or absence of one or more corrupted portions of the stored data inconsistent with the first data version; and to communicate the generated information via the communications means to the data processing system for generating the differential update instructions.

17. A data processing system for facilitating differentially updating stored data in a mobile terminal from a first data version to an updated data version, the data processing system comprising means for loading differential update instructions into the mobile terminal, the differential update instructions causing the mobile terminal to generate the updated data version from the stored data and the loaded differential update instructions;

characterised in that

the data processing system further comprises

- means for receiving information from the mobile terminal indicative of the presence or absence of one or more corrupted portions of the stored data inconsistent with the first data version; and
- processing means adapted to generate the differential update instructions from the first and updated data versions and from the received information; and to include repair instructions into the differential update instructions, wherein the repair instructions are adapted to cause the mobile terminal to repair any such detected corrupted portions.

18. A computer program comprising program code means adapted to cause a mobile terminal to differentially update stored data in the mobile terminal from a first data version to an updated data version by performing the following steps, when the program is executed on the mobile terminal:

- generating information from the stored data indicative of the presence or absence of one or more corrupted portions of the stored data inconsistent with a first data version;
- loading differential update instructions into the mobile terminal; and
- 5 – generating the updated data version by the mobile terminal from the stored data and the loaded differential update instructions, including repairing any such detected corrupted portions.

10 19. A computer program comprising program code means adapted to cause a data processing system to facilitate differentially updating stored data in a mobile terminal from a first data version to an updated data version by performing the following steps, when the program is executed on the data processing system:

- 15 – generating differential update instructions from the first and updated data versions and from information received from the mobile terminal, wherein the received information is indicative of the presence or absence of one or more corrupted portions of the stored data inconsistent with the first data version; wherein generating differential update instructions comprises including repair instructions into the differential update instructions, wherein the repair instructions are
20 adapted to cause the mobile terminal to repair any such detected corrupted portions; and
- 25 – loading the generated differential update instructions into the mobile terminal, the differential update instructions causing the mobile terminal to generate the updated data version from the stored data and the loaded differential update instructions.

20. A computer-readable medium comprising a computer program according to claim 18 or 19.

21. Use of a mobile terminal according to claim 16 for differentially updating stored data in the mobile terminal from a first data version to an updated data version.